



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/584,423

06/22/2006

Yasuhito Yaji

01381/10

1253

26646

7590

12/23/2008

KENYON & KENYON LLP
ONE BROADWAY
NEW YORK, NY 10004

EXAMINER

SHECHTMAN, SEAN P

ART UNIT

PAPER NUMBER

2121

MAIL DATE

DELIVERY MODE

12/23/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,423	Applicant(s) YAJI ET AL.	
	Examiner Sean P. Shechtman	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,30 and 34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,30 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed 11/28/08 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Figs 1A, B. Applicant is required to cancel the new matter in the reply to this Office Action.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig, 1, elements 100,101,110,120,S. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

Art Unit: 2121

art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 30, 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1, 30, 34 recite the limitation that the mathematical expression model is a mathematical expression model by its acquiring all of only part of the production state and the production constraint. The specification teaches “mathematical expression model 110 is created by acquiring elements relating to the production schedule to be created from a production state and a production constraint of a production process”. One of ordinary skill in the art would consider a mathematical expression model an abstract mathematical representation of a process, device or concept that uses a number of variables to represent inputs and outputs, however, one of ordinary skill in the art would not define a mathematical expression model as being a mathematical expression model by virtue of its acquiring inputs, nor is it even clear to one of ordinary skill in the art how a mathematical expression model would acquire inputs. The original disclosure is completely silent in teaching how the mathematical expression model is a mathematical expression model by its acquiring all of only part of the production state and the production constraint. Therefore, the claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Art Unit: 2121

4. Claims 1, 30, 34, rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 1, 30, 34 recite the limitation of an instruction to create a mathematical expression model by acquiring all or only part of said production state and the production constraint and expressing in a mathematical expression. The specification teaches “mathematical expression model 110 is created by acquiring elements relating to the production schedule to be created from a production state and a production constraint of a production process”. The original disclosure is completely silent in teaching an instruction to create a mathematical expression model by acquiring all or only part of said production state and the production constraint and expressing in a mathematical expression. Therefore, the claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 30, 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claims 1, 30, 34 recite the limitation "the production instruction obtained" in line 16 of claim 1 for example. There is insufficient antecedent basis for this limitation in the claim.

Claims 1, 30, 34 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph. The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

Referring to claims 1, 30, 34, for example, claim 1, lines 8-9, the claim appears to define a mathematical expression model by what it acquires. It is unclear how a mathematical expression model can be defined as a model by what it acquires.

Referring to claims 1, 30, 34, for example, claim 1, line 11, the claim recites the limitation of expressing, but is completely silent as to what is being expressed, and is further unclear as to what is performing the expressing. Therefore, it is unclear what is performing the expressing and it is further unclear what is being expressed.

Referring to claims 1, 30, 34, for example, claim 1, line 11, the claim recites the limitation of expressing, but is completely silent as to what is being expressed, and is

Art Unit: 2121

further unclear as to what is performing the expressing. Therefore, it is unclear what is performing the expressing and it is further unclear what is being expressed.

Referring to claims 1, 30, 34, for example, claim 1, lines 19-20, the claim recites the limitation of expressing in a mathematical expression, but is completely silent as to what is being expressed, and is further unclear as to what is performing the expressing.

Therefore, it is unclear what is performing the expressing and it is further unclear what is being expressed. Furthermore, this limitation is recited in the context of an instruction, and it is completely unclear what the intended metes and bound of the claims are, therefore the prior art rejection below is based on the claims as best interpreted by the examiner.

Examiner further invites the applicant's attention to The MPEP 2173.05(a), which clearly states, in part:

"The meaning of every term used in a claim should be apparent from the prior art or from the specification and drawings at the time the application is filed. Applicants need not confine themselves to the terminology used in the prior art, but are required to make clear and precise the terms that are used to define the invention whereby the metes and bounds of the claimed invention can be ascertained."

Due to the number of 35 USC § 112 rejections, the examiner has provided a number of examples of the claim deficiencies in the above rejections, however, the list of rejections may not be all inclusive. Applicant should refer to these rejections as examples of deficiencies and should make all the necessary corrections to eliminate the 35 USC § 112 problems and place the claims in proper format. Due to the vagueness and a lack of clear definition of the terminology and phrases used in the specification

and claims, the claims have been treated on their merits as best understood by the examiner.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1, 30, 34 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,216,593 to Dietrich et al (hereinafter referred to as Dietrich).

Referring to claims 1, 30, 34, Dietrich teaches a production schedule creation device, method, computer program, computer-readable medium recording a computer program (Col. 6, lines 40-63; Col. 4, lines 57-68, DARA; Col. 2, lines 32-57 and Col. 20, lines 33-35, production plan), comprising:

a production simulator that simulates a production process expressing a production state and a production constraint of the production process and is configured as a discrete system that moves a thing at each event (Col. 19, lines 28-35, mathematically modeling the consumption of each resource by orders and the availability of resources; Col. 20, lines 44-48, mathematical model of discrete activity resource allocation problem);

a mathematical expression model holding device that holds a mathematical expression model which is created by acquiring information relating to creation of a production schedule to which attention is paid (Col. 19, lines 23-27, model generator means responsive to data preprocessing means; Col. 20, lines 33-43, generate production plan, and mathematical model formulated using reduced activities and

resources), and is a mathematical expression model by acquiring all or only part of the production state and the production constraint of the above described production process configured in the above described production simulator and expressing in a mathematical expression (Col. 19, lines 28-35, mathematically modeling the consumption of each resource by orders and the availability of resources; Col. 20, lines 44-48, mathematical model of discrete activity resource allocation problem; Col. 7, line 67 – Col. 8, line 55); and

an optimization calculation device that performs optimization calculation processing by using a predetermined evaluation function for the above described mathematical expression model, and calculates a production instruction for said production simulator (Col. 19, lines 45-56),

wherein the production instruction obtained by said optimization calculation device is supplied to said production simulator to cause it to execute simulation (Col. 19, lines 48-56; Col. 20, lines 33 – Col. 21, lines 12), an instruction to create a mathematical expression model by acquiring all or only part of said production state and the production constraint and expressing in a mathematical expression and to perform optimization calculation is repeatedly output to said optimization calculation device from said production simulator whenever a new event requiring an instruction occurs (Col. 19, lines 48-56; Col. 20, lines 33 – Col. 21, line 12), and thereby said production simulator and said optimization calculation device are linked to each other to create the production schedule in the above described production process (Col. 6, lines 40-63; Col. 4, lines 57-68, DARA; Col. 2, lines 32-57 and Col. 20, lines 33-35, production plan).

7. Claims 1, 30, 34 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,315,521 to Hanson et al (hereinafter referred to as Hanson).

Referring to claims 1, 30, 34, Hanson teaches a production schedule creation device, method, computer program, computer-readable medium recording a computer program (Col. 5, line 23 – Col. 6; Fig. 2), comprising:

a production simulator that simulates a production process expressing a production state and a production constraint of the production process and is configured as a discrete system that moves a thing at each event (Col. 7, lines 12 – Col. 8, line 50, computer simulation models arrive at process model and process constraints);

a mathematical expression model holding device that holds a mathematical expression model which is created by acquiring information relating to creation of a production schedule to which attention is paid (broad; See Abstract, entire invention of Hanson is related to providing optimum production schedule; Col. 5, line 23 – Col. 16), and is a mathematical expression model by acquiring all or only part of the production state and the production constraint of the above described production process configured in the above described production simulator and expressing in a mathematical expression (Col. 7, lines 12 – Col. 8, line 50, See equations for process model and process constraints); and

an optimization calculation device that performs optimization calculation processing by using a predetermined evaluation function for the above described

mathematical expression model, and calculates a production instruction for said production simulator (Col. 5, line 23 – Col. 16, solution of linear programming model),

Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed (MPEP 2111.04). The claimed condition of “whenever a new event requiring an instruction occurs” is made optional by the terminology used in the claim because the claim never requires a new event that requires an instruction to occur. The claimed condition of whenever a new event requiring an instruction occurs would not ever reasonably occur in the prior art reference because never requires a new event that requires an instruction to occur. Therefore, since the claimed condition of “whenever a new event requiring an instruction occurs” would not ever reasonably occur in the prior art reference, the limitations which are only conditionally required based on the claimed condition occurring are not required by the claim, i.e. all of the limitations directed to an instruction and the linking. Therefore the claim fails to patentably distinguish over the teachings of the reference.

Response to Arguments

Applicant's arguments filed 11/28/08 have been fully considered but they are not persuasive.

8. Applicant argues that Dietrich does not teach a production simulator means for simulating a production process expressing a production state and a production constraint of the production process and is configured as a discrete system that moves a thing at each event. The examiner respectfully disagrees. The examiner respectfully submits that the mathematically modeling the consumption of each resource by orders

and the availability of resources (Col. 7, lines 67 – Col. 8, line 2; Col. 19, lines 25-38; Col. 20, lines 44-47), wherein the discrete system is not claimed as being particularly discrete or separate from any other claimed element and is not claimed as specifically excluding any other claimed limitation, is a production simulator means for simulating a production process expressing a production state and a production constraint of the production process and is configured as a discrete system that moves a thing at each event.

9. Applicant argues that Dietrich fails to teach the production instruction obtained by said optimization calculation device is supplied to said production simulator to cause it to execute simulation, an instruction to create a mathematical expression model by acquiring all or only part of said production state and the production constraint and expressing in a mathematical expression and to perform optimization calculation is repeatedly output to said optimization calculation device from said production simulator whenever a new event requiring an instruction occurs, and thereby said production simulator and said optimization calculation device are linked to each other to create the production schedule in the above described production process. The examiner respectfully disagrees.

Dietrich teaches the optimization model controller means updates the mathematical model and calls the optimization model solver means for generating an optimal allocation of resources (Col. 19, lines 48-56), and Dietrich also teaches the corresponding method of appending constraints to the formulated mathematical model of discrete activity resource allocation problem to thereby form a new discrete activity

resource allocation problem, wherein a linear relaxation of the new discrete activity resource allocation problem is subsequently solved by linear programming (Col. 20, lines 33 – Col. 21, lines 12, i.e., repeated). The examiner respectfully submits that the optimization model controller means updating the mathematical model and calling the optimization model solver means for generating an optimal allocation of resources, and the corresponding method of appending constraints to the formulated mathematical model of discrete activity resource allocation problem to thereby form a new discrete activity resource allocation problem, wherein a linear relaxation of the new discrete activity resource allocation problem is subsequently solved by linear programming, is the production instruction obtained by said optimization calculation device is supplied to said production simulator to cause it to execute simulation.

Dietrich further teaches the optimization model controller means updates the mathematical model and calls the optimization model solver means for generating an optimal allocation of resources (Col. 19, lines 48-56), and Dietrich also teaches the corresponding method of appending constraints to the formulated mathematical model until no violated inequalities by the solution of the linear relaxation, from a list of constraints generated from the mathematical model, are found (Col. 20, lines 33 – Col. 21, lines 12). The examiner respectfully submits that the optimization model controller means updating the mathematical model and calling the optimization model solver means for generating an optimal allocation of resources, and the corresponding method of appending constraints to the formulated mathematical model until no violated inequalities by the solution of the linear relaxation, from a list of constraints generated

from the mathematical model, are found, is said optimization calculation device, receiving an instruction to create a mathematical expression model by acquiring all or only part of said production state and the production constraint and expressing in a mathematical expression and to perform optimization calculation, repeatedly output to said optimization calculation device from said production simulator whenever a new event requiring an instruction occurs.

Dietrich further teaches the method and system above, for discrete activity resource allocation to generate a production plan (Col. 6, lines 40-63; Col. 4, lines 57-68, DARA; Col. 2, lines 32-57 and Col. 20, lines 33-35, production plan). The examiner respectfully submits that the production instruction obtained by said optimization calculation device is supplied to said production simulator to cause it to execute simulation, and the an instruction to perform optimization calculation is output to said optimization calculation device from said production simulator whenever a new event occurs, for discrete activity resource allocation to generate a production plan, is said production simulator and said optimization calculation device being thereby linked to each other to create the production schedule in the above described production process.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean P. Shechtman whose telephone number is (571)272-3754. The examiner can normally be reached on 9:30am-6:00pm, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SPS
Sean P. Shechtman
December 21, 2008

/Sean P. Shechtman/
Primary Examiner, Art Unit 2121